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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,406

10/23/2006

Marco Di Meco

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20575

7590

06/22/2009

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EXAMINER

ALTUN, NURI B

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,406	Applicant(s) DI MECO ET AL.	
	Examiner NURI ALTUN	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-13, as amended, are currently pending and have been considered below. Claims 5 and 7 have been cancelled.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1-4, and 8-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Meco et al. (US# 2002/0015825)**, in view of **Osako et al. (EP 1,052,425)**.

As per claim 1, Meco et al. teach a toothed belt (1),
comprising a body (2) and a plurality of teeth (4);
said teeth being coated with a fabric (5);
said fabric (5) being treated with a liquid solution of RFL impregnating fibers of
the fabric (paragraph 0027) and successively coated on the outside with a resistant
layer (8) (paragraph 0028, since coating is external and applied on top of the fabric, it is
inherent that resistant layer coating is applied after RFL treating);
said resistant layer (8) adhering directly to said fabric and comprising a
fluorinated plastomer and an elastomeric material (see paragraph 0028);
wherein said fluorinated plastomer is in an amount by weight of between 101 and
150 parts by weight with respect to said elastomeric material (see paragraph 0031).

However Meco et al. don't explicitly disclose said fluorinated plastomer is formed for more than 50% by particles of average size smaller than 10 micrometers.

Osako et al. teach a power transmission belt and method of manufacturing the power transmission belt with the concept of having fluorinated plastomer is formed by particles of average size smaller than 10 micrometers (see paragraphs 0062 and 0063),

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the resistant layer of Meco et al. to include plastomer particle configuration taught by Osako et al. in order to improve dispersion of the materials, thereby ensuring a consistent product and performance (See paragraph 0063 of Osako et al.)

As per claim 2, Meco et al. teach said fluorinated plastomer is polytetrafluoroethylene (paragraph 0033, lines 1-4).

As per claims 3 and 11, Meco et al. teach said elastomeric material comprises HNBR (paragraph 0033, lines 4-5).

As per claim 4, Meco et al. teach said elastomeric material comprises HNBR modified with a zinc salt of polymethacrylic acid (paragraph 0033, lines 5-8).

As per claim 8, Meco et al. teach a process for fabrication of a toothed belt (1), comprising:

forming an elongate belt body (2) of an elastomeric material, the belt having a first, planar side and a second side opposite the first side (see Fig. 1);

forming teeth (4) along the second side;

coating the teeth with a fabric (5) (paragraph 0018, lines 1-2);

treating the fabric with a liquid solution of RFL to impregnate fibers of the fabric (paragraph 0027), coating the treated fabric with a resistant layer (8) comprising a fluorinated plastomer (paragraph 0028, since coating is external and applied on top of the fabric, it is inherent that resistant layer coating is applied after RFL treating) and an elastomeric material (see paragraph 0028),

the fluorinated plastomer being present in the resistant layer (8) in an amount between 101 and 150 parts by weight of an amount of the elastomeric material (see paragraph 0031) and directly adhering the resistant layer (8) to the fabric coated over the teeth.

However Meco et al. doesn't explicitly disclose the fluorinated plastomer comprising for more than 50% particles of an average size less than 10 micrometers.

Osako et al. teach the fluorinated plastomer particles of an average size less than 10 micrometers (see paragraphs 0062 and 0063);

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the resistant layer of Meco et al. to include plastomer particle configuration taught by Osako et al. in order to decrease level of noise.

Osako et al. don't explicitly disclose the particles are more than 50%, but based on the teachings of Osako et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify more than 50% of the particles to have average size smaller than 10 micrometers in order to improve dispersion of the materials, thereby ensuring a consistent product and performance.

Also, *MPEP 2144.05 II A* states that it is not inventive to discover the optimum or workable ranges by routine experimentation.

As per claim 9, Meco et al. and Osako et al. teach all the structural elements of the claimed invention, as mentioned in claim 8. Meco et al. further lack said resistant layer being applied directly to the fabric via spreading.

Osako et al. teach said resistant layer is applied directly to the fabric via spreading (see paragraph 0025).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the belt of Meco et al. to include the layer application taught by Osako et al. in order to provide uniform structure.

As per claim 10, Meco et al. teach forming the elongate belt body includes embedding a plurality of longitudinal filiform resistant inserts or cords in the elastomeric material (paragraph 0017, lines 2-4).

As per claim 12, Meco et al. teach a first step of treating a fabric with an RFL composition (paragraph 0027) and a second step of coating the resistant layer on said treated fabric (paragraph 0028, since coating is external and applied on top of the fabric, it is inherent that resistant layer spreading is applied after RFL treating).

Meco et al. don't explicitly disclose spreading the resistant layer directly on fabric.

Osako et al. teach spreading said resistant layer directly on said fabric (paragraph 0025).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the belt of Meco et al. to include the layer application as taught by Osako et al. in order to provide uniform structure.

As per claim 13, Meco et al. teach a resistant layer (8) adapted to be adhered to the teeth of a toothed belt (1) (paragraph 0028, since resistant layer coats the fabric which is on the teeth, the resistant layer is considered as adapted to be adhered to the teeth) and comprising a fluorinated plastomer and an elastomeric material (paragraph 0028); wherein said fluorinated plastomer is in an amount by weight of between 101 and 150 parts by weight with respect to said elastomeric material (paragraph 0031)

However Meco et al. doesn't explicitly disclose the fluorinated plastomer comprising for more than 50% by particles of average size smaller than 10 micrometers.

Osako et al. teach the fluorinated plastomer by particles of average size smaller than 10 micrometers (see paragraphs 0062 and 0063);

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the resistant layer of Meco et al. to include plastomer particle configuration taught by Osako et al. in order to decrease level of noise.

Osako et al. don't explicitly disclose the particles are more than 50%, but based on the teachings of Osako et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify more than 50% of the particles to have average size smaller than 10 micrometers in order to improve dispersion of the materials, thereby ensuring a consistent product and performance.

Also, *MPEP 2144.05 II A* states that it is not inventive to discover the optimum or workable ranges by routine experimentation.

3. Claim **6** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Meco et al. (US# 2002/0015825)**, in view of **Osako et al. (EP 1,052,425)**, as applied to claim 4 above, further in view of **Di Meco et al. (EP 1,157,813)**.

Meco et al. and Osako et al. combination teaches all the structural elements of the claimed invention, as applied to claim 4 above, but doesn't explicitly disclose said resistant layer having a weight of between 50 and 80 grams per meter square.

Di Meco et al. teach a toothed belt having the concept of resistant layer having a weight of between 50 and 80 grams per meter square (see Table 1; mean density of 350-400 g/l with the specified thickness corresponds to weight of 80 grams per meter square which falls in the claimed range).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Meco et al. and Osako et al. to include the resistant layer weight taught by Di Meco et al. in order to provide optimal strength, weight and wear characteristics to the belt.

Response to Arguments

Applicant's arguments filed 05/15/2009 have been fully considered but they are not persuasive.

The applicant first argues that teachings of Osako are limited to a liquid treatment and cannot be extended to a solid layer. The examiner notes that Osako's fluorinated

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plastomer generally relates to mixing in resins (paragraphs 0062 and 0063 of the patent document). Therefore, the liquid treatment of Osako can be applied to the Meco et al.'s resistant layer during the mixing phase (when the layer is in resin form). Thus, the teachings of Osako et al. can be extended to Meco et al.

The applicant next argues, "a particular parameter must be recognized as a result-effective variable before a determination of optimum range might be characterized as routine experimentation." The examiner notes that particle size of fluorinated plastomer affects the mixability, settling and friction (paragraphs 0062 and 0063 of Osako). Therefore, it is recognized as a result-effective variable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NURI ALTUN whose telephone number is (571)270-5807. The examiner can normally be reached on Mon-Fri 7:30 - 5:00 with first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272 7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley T King/
Primary Examiner, Art Unit 3657

NBA